

A TREATISE

ON

THE SYMPTOMS AND CURE

OF

CHOLERA,

BY

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THIRD EDITION.

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SYMPTOMS AND CURE OF CHOLERA.

isease CHOLERA may very properly be divided into stages of symptoms, viz. 1st, one *Premonitory*; 2dly, of *Collapse*; and 3dly, the stage of *Reaction*. Of these, a very few remarks will suffice. The stage of collapse is that which truly constitutes the disease, and demands our principal attention. The third stage, of reaction, is dependent on the second, and is rarely of considerable character.

PREMONITORY SYMPTOMS may be mild in their character, and short in their duration. They bear a close resemblance to the nameless uncomfortable feelings which prelude to so many of our serious and dangerous diseases, and therefore they cannot be regarded as characteristic symptoms distinguishing this from all other diseases. They subject, at the same time, to considerable variation in their severity and combination. Most frequently there is general languor and lassitude, with occasional giddiness and headache. The pulse is weak; and there is a diminution of the animal heat. These may be attended by slight bowel complaint, in no respect different from common Diarrhoea with which every one is familiar. Diarrhoea and vomiting are occasionally present; and the patient is sometimes troubled with slight cramps in the joints of the toes and fingers. One or more of these symptoms may be present at intervals for several hours, or even weeks, before the marked phenomena of the disease appear; and they are to be found in many who have been seized with the disease in a decided form, but are easily relieved by common and simple means.

tutional excitement may be observed, and that this, in f
is the primary and most important of the series of disea
actions which constitute the spasmodic cholera. Upon t
I have only to remark, that I have never been able to det
any appearance of this general excitement, but, on the c
trary, I have always, from the commencement, seen a man
tendency to debility and sinking.

Since the above was written, I have visited Musselbur
where I observed a marked difference in the premonit
symptoms. Those affected in this stage were going ab
and even out of doors. All of them had the pulse remarka
increased both in strength and quickness; face flushed, w
suffused red eyes. The tongue was invariably loaded wit
dirty brown looking fur. I observed also a fisherman wh
wife had lately died of cholera. He had purging, wi
strong quick pulse, flushed face, suffused eyes, and f
tongue. We really could not say whether he was inebria
or not; he could give us no account of his feelings,
appeared quite oppressed.

For the removal of the Diarrhœa, which in most ca
exists for several days before any marked symptoms
sinking occur, we would advise, for an adult, from forty
sixty drops of laudanum, in the form of an injection of th
or four tablespoonfuls of gruel. Should this not be sufficie
he should, in three or four hours, take eight or ten gra
of Dover's powder, or the injection, if necessary, may
repeated. The patient must eat only of the lightest f
and in very small quantities; his drinks must be bland. a
only in mouthfuls. Should there be no excitement of t
action of the heart and arteries, I would advise a tab
spoonful of brandy and hot water. Should the pulse
strong and full, it would be most injurious to give brand
and it would be much more advisable to take some gun
of blood.

THE STAGE OF COLLAPSE usually comes on sudden
and not unfrequently the first attack occurs in the cour
of the night.

Severe *purgings* is often the first symptom. The evacu
tions are very copious, and, for a time, may be frequent al

Occasionally the sensation of emptiness and sinking heat, that the patient remarks, he feels as if the whole inal viscera, as well as their contents, had passed him. The evacuations are now no longer the usual ones from the primæ viæ, but appear like rice water, / muddy. As the disease advances, this appearance changes into one of a peculiar albuminous matter, in many flocculi are suspended. Sometimes this is quite at other times it is more or less mixed with water. as I know, this flocculent discharge is peculiar to this

striking and very singular symptom is *an uneasiness at of the stomach*. It is not permanent, and is only present the earlier periods of the collapse and subsequent n. It is an undescribable heat and uneasiness, some amounting to great pain. Sometimes it is most able behind the lower half of the sternum.

ugh the sickness is distressing, the *vomiting* is rarely present a symptom as the purging. It appears, that bile is discharged at this period. At first it is the same rice-water looking fluid that is passed by stool. But in more advanced stage of the collapse, during the e exhaustion, there occasionally flows from the a yellow or greenish matter, thick, ropy, and tenacious, apparently derived from the stomach.

purgings and vomiting are usually accompanied with spasms. Beginning at the points of the fingers and toes, rapidly extend to the legs and thighs, to the parietes of the abdomen and thorax, and to the neck. Slight spasms, however, may occur without any pain; but, when more violent and severe, the pain is excruciating, forcing the sufferer deeply to moan, or even to scream with agony. Sometimes the various parts are all attacked, when the body is spasmodically drawn together.

Respiration, when not affected by spasms of the respiratory muscles, appears natural; and, as these muscles are often attacked, it may be stated, that in general the breathing is quiet and regular, throughout the stage of life. Sometimes, however, a very different spectacle presents itself. The spasm becomes nearly universal; the spasms of respiration, of the throat, and mouth, are thrown into violent action. *Locked-jaw* occasionally supervenes,

or, it may be, the mouth is widely distended, according to the different classes of muscles happen to be affected. The whole frame is forced into a constrained and most frightful position; and after being, for a short time, riveted, a fearful spectacle of horror, the patient sinks down exhausted, with complete relaxation of the whole muscular system, as if were to rise no more. To all appearance he is dead. He has no consciousness, no sensation, no breathing. He is truly in a state of suspended animation, which may continue for a minute or two, when he begins slowly and gradually to revive.

I am of opinion, that the patient sometimes suddenly dies of cramp in the heart.

Accompanying these symptoms there is a most alarming and determined sinking of the vital powers, which constitutes the peculiar characteristic of the disease.

The *action of the heart and arteries* appears to be diminished almost to total suspension. The extremities and the surface are exsanguined, as in a person who has been long dead. No pulse can be felt at the wrist, or ankles; sometimes not even in the upper extremity; frequently the heart itself cannot be felt to beat. No doubt, the blood must still continue to flow, notwithstanding all these appearances; and to ascertain the fact, I have sometimes narrowly examined the state of the veins on the back of the patient's hand. I have insulated a portion of the superficial vessel lying between two of the metacarpal bones, and then emptied it by gentle friction in the course of the circulation. So long as I retained my finger on the *distal* part of the vein, it remained empty, but on my removing my finger, it instantaneously filled with blood. I was even struck with the swiftness of its course.

The *low temperature* of the body may be the consequence of the peculiar state of the circulation. The whole frame appears cold to the very core. The extremities especially are cold as in death, and the skin of the fingers is corrugated. The entire surface is often clammy, or bedewed with copious sweat, apparently exceeding in quantity the large secretions from the bowels. Even the tongue feels cold and flaccid; at an early period of this stage it is often covered with a slimy secretion. I have never found it dry at any period of the complaint. My impression is, though I do

imine with due attention, that the very discharges, either from the stomach, or from the intestinal canal, are, at all events, much below the usual degree of nature of the animal body.

surface of the body is *livid*, as well as cold. The dark hue is very striking. It is most apparent in the hands, and especially the nails; so much so, that this Newcastle, not inaptly denominated the *Blue Stage*. The parts are very decidedly of this colour. If blood is caused to be drawn, it will flow either very feebly, or not at all.

When it does come, it is always extremely dark; the worst cases, resembles tar rather than blood. A blue areola appears to surround the eye. This, however, is deceptive, and arises solely from a marked shrinking and collapse of the soft parts, by the eyes being remarkably sunk, the shadow from the brow ridge is thereby proportionably increased. The eye is sometimes glazed, and as if covered with a film. It is never seen it appear shrivelled.

shrinking of the soft parts of the body, in the rapidness of the disease, proceeds to an extent that appears scarcely credible. It so completely alters the expression and countenance, that it is scarcely possible to form a safe conjecture of the age of those who may fall under observation. In short, in looking at the patient, you fancy you were contemplating a *subject* that had lain dead in the dissecting room.

actual debility is correspondent with these symptoms. At the commencement of the indisposition, there is great languor and feebleness; but as the disease advances, it becomes altogether unexampled. The unwillingness to make the slightest muscular exertion, is remarkable; for the ability seems as much wanting as the will. If asked, the patient invariably replies, that he thinks he is lying. In some cases, it appears as if there was an entire inability to move,—a complete loss of voluntary motion; whilst, in some of the less aggravated cases, the hand beating at the wrist, the patient, to your surprise, will, and contrive to walk a few hurried steps.

voice, at an early period, even of the premonitory fits, is often greatly weakened. In the stage of which I am now treating, it is gone; and the patient can speak only in a whisper.

No *urine* is secreted in this stage, nor till some time a reaction has been established.

The *thirst* in this stage, and, I may add, throughout whole disease, is intense, and the craving for cold drink unceasing.

I have always found the *mind* perfectly entire through the whole of this stage. Neither the temporary state of suspended animation, occurring from the violence of general spasm, nor the state of almost apparent death, arising it may be, from the complete exhaustion of the vital power, form any proper exception to this remark; for, in the former case, the mind regains its powers, as soon as the body again exhibits its vitality; while, in the latter, although the physician might suppose, from the appearance of the countenance, which has lost animation and intelligence, that death had done its work: yet, on going up to your patient and asking him a question, you find him as collected and intelligent as in perfect health. I have never witnessed what might properly be called syncope; and have always found my patient quite able to converse with me, until the last moment of his existence.

In the cold stage, it has generally been believed, that the blood, in great part at least, is driven upon the deep-seated organs. But if we are to credit this, how can we account for the remarkable quantity of cold sweat which is thrown off, as much, I think, or more, than what passes off by the mucous membrane of the bowels? Besides, there is another reason why I do not believe that the lungs are so gorgeously supplied. I have perfectly satisfied myself and others, that the chest sounded naturally upon being tapped by the points of the fingers; and on the application of the ear and the stethoscope to the chest, I have always heard the breathing murmur most distinct. Sometimes, indeed, it was a little quicker than natural.

This sketch of the symptoms of Collapse may, I hope, serve to exhibit the real nature of the danger in this disease. I shall not stop to consider the remote cause which produces or the proximate one which, in fact, constitutes the malady, nor to inquire how far the nervous, or any other system is involved. But having exhibited the successive steps by which the patient is rapidly brought to the confines of the tomb, I at once proceed to consider how that downward progress may best be arrested.

here I do not mean to deny that there may be a class in which the tendency to death is altogether irresistible; but I have seen enough to convince me, that if the latent spark of life be discoverable, the physician ought not to despair, but should, with the hope of recovery, use his most strenuous exertions. So long as we have ascertained, and do not theorize upon the latent cause of the disease, what we mainly see in the patient us, is a state resembling most nearly that of simple *hysteria*; and in this, as in other cases of suspended animation, it cannot be useless, far less absurd, to persist in vigorous use of means, even after all the phenomena of life have ceased. I speak from experience, having laboured to resuscitate a person, who, to appearance, were nearly moribund, until, exhausted with exhaustion, I have almost given up in despair; but, after a time, beyond all expectation, the patient recovered.

first person I brought into reaction after severe disease, remained at least a couple of hours without any movement; all this time I was busily engaged with my patient; and the next two hours I, as well as all the attendants of the hospital, who had seen many previous cases, entirely despaired. During the fifth hour my patient, (a man of eight years,) became evidently better, and continued gradually to improve until complete reaction took place. I only say I never had such complete satisfaction in medical treatment.

course, there is every variety in the intensity of the symptoms; these being, in some cases, followed rapidly by death, whilst in others they are so slight, that the unassisted powers, would assuredly bring about reaction, and recovery. Betwixt these extremes, the varieties are numerous, according for different degrees of exertion.

aggravated cases, I would in one word say, that so long as the vital functions can be excited by the most powerful external stimuli, there is no reason to despair.

The *Treatment* I am disposed to recommend is of the simple nature. The patient should be placed, with as little delay as possible, amid hot dry bed-clothes. A sufficient number of attendants, to the extent of five or six, should devote themselves exclusively, and under intelligent

direction, to his service; some to manipulate about person, and the others promptly to prepare and apply appropriate remedies. Two or three of these should immediately commence smart and continued *friction*, to persevered in, if necessary, for many hours. This is intended to operate on the circulation; and for the purpose at same time of imparting *caloric*, they should be steadily rapidly supplied, every three or four minutes, with quantity of very hot dry linen. I found this much more efficacious than woollen cloths: it seemed to communicate the heat with better effect than any thing else that I had employed. It would be a bad case indeed, in which this continued application of hot friction did not produce some salutary effect.

This process being once in steady operation, *the intermission of hot fluids* should immediately be commenced. Large quantities of hot water, either pure, or, what is preferable, mixed with mustard or salt, (in the proportion of one two tablespoonfuls to the pint,) as warm as the patient can swallow it, are now to be administered. When, from the presence of locked-jaw, or other cause, swallowing is impeded, one or two pints of the fluid should promptly be introduced by means of a hollow tube, or the stomach pump. Sudden vomiting may, in this way, almost to a certainty, be produced; and, if necessary, the usual mechanical means for exciting vomiting, may be had recourse to. I am the more minute in this particular, as I esteem this remedy of the very first importance. My firm belief is, that if vomiting can be by any means excited, the patient may recover however desperate his condition. Perhaps there is no stimulus to the frame that at all equals in effect the action of full vomiting. Besides, a large quantity of cool fluid is thrown off, which, I think, in the stomach must tend to keep up the state of collapse. A similar effect results from the injection of stimulating fluids into the bowels, as hot water with the addition of either mustard or salt, or both conjoined; and this ought never to be neglected. The repetition of these remedies is to be regulated by the obstinacy of the tendency to collapse, and by their effect in inducing the stage of reaction. I have never found that more than two or three vomitings were necessary; but advantage will be derived from the use of the injections for a longer time.

Whenever the pulse is perceptible at the wrist, *blood-*

may be employed, and probably with benefit. When there is no pulse, the attempt will be futile. Bleeding is the pain at the pit of the stomach; and I have observed, that the pulse becomes stronger as the blood

Great care, however, is to be taken, lest, by carrying the bleeding too far, you again sink the vital energy. I would recommend, that, at first, the bleeding should be small, to the extent of ten or fourteen ounces, and, if judged necessary, to be repeated in half an hour, or an hour.

vital powers, being thus roused into action, we have to do, not only to maintain and urge them on, until the stage of convalescence is fully established. For this purpose, I would recommend the use of the common diffuseable stimuli—brandy, spoonfuls or tablespoonfuls, according to the age of the patient; sal. volatile, in the dose of twenty-five or thirty drops; ether, or powdered ginger, in a tablespoonful or two dissolved in water. These may be given every five or ten minutes, according to the frequency as the patient resumes his appearance of strength and safety.

Cravings for cold water should be steadily resisted, and only fluids alone allowed for drink.

The remedies now specified are very few and very simple, consisting of friction, hot vomits, hot injections, hot stimuli, and purgatives. In struggling immediately with this most dangerous disease, I kept the one object, of exciting reaction, constantly in view; and I resorted to the means which, at the first appearance of the disease, appeared at once the readiest and the most powerful. I cast about for other means, because the efficacy of those which I had used exceeded my expectations, and, with few exceptions, I have not yet accomplished a cure. I rejoice at their simplicity, as they do not require a cottage in the land that may not have them at a very short warning. And, strongly do I indulge the hope, that the same simple end being kept in view, and perseverance being exercised, many a poor sufferer may be snatched, as it were, from death.

Other remedies for accomplishing the same great purpose occur to the minds of others, and, under favourable circumstances, may be employed with advantage.

As to *external applications*, I regard hot bricks, and hot water bags, or bags of hot sand, or salt, as much inferior in efficacy to hot friction. Besides, from the confusion which

may prevail, the stupidity of the attendants, and the language of the patient, I have known some of these remedies materially to injure the skin, which the hottest linen never does. Nor should I at all anticipate so good effects from caloric applied through a liquid or humid medium. I have never seen the hot air bath employed; but, from the consideration of the cold and clammy state of the skin, I have no expectation of any beneficial result. I cannot speak from experience of the use of friction with oil of turpentine and such stimuli; probably they might be useful.

There is no occasion for alarm on account of irritation of the stomach too much, by exciting vomiting. Long continued urgent vomiting I have never met with; nor have I ever witnessed the purging proceeding to a troublesome extent. On the other hand, I have been always glad to rid of the watery dejections.

I have used oxygen gas by injection, distending the lower intestines, and, I think, with decidedly good effect. In the case of a girl of six or seven years, who was in the most marked sunk condition, I entirely failed in attempts to introduce this gas, from the abdomen being completely drawn in by the cramps of the whole muscle, although I had introduced a tube a foot up in the intestines.

I have never had an opportunity of trying the inhalation of this or other stimulating gases. Probably it might prove a powerful remedy.

In a very bad case, without pulse, I once added an ounce of oil of turpentine to the common injection of mustard and hot water, with a little apparent benefit. In another case in which turpentine was administered in this manner, it was soon followed by severe purging of blood,—an uncommon feature in this disease. This injurious effect I attributed to so powerful a stimulus being given when reaction had considerably advanced.

I have never seen electricity or galvanism fairly used. As powerful stimulants, they are agents that should be tried and probably would be serviceable.

Though I frequently saw calomel given in this stage, as large as well as in the more usual doses, I never observed that any benefit resulted. I have, however, seen it, in the early period of reaction, produce dark green dejections which greatly resemble those passed in croup, after the first

ion of the mineral. They differed in containing a quantity of mucous fluid. Apprehensive of its specific in the later periods of the disease, I latterly abandoned its employment.

ve but seldom employed *opium*. Its free use I should be extremely dangerous. When laudanum has been for the relief of spasm, I have thought the benefit chiefly from the hot brandy and water in which it is administered. In one case I witnessed two drachms by injection, and apparently with no good effects.

case of very marked collapse at Gateshead, I saw a man give a strong and copious infusion of *tobacco* in form of injection. I then decidedly disapproved of its use. In fact, I had a horror at it, and I am satisfied that it probably hastened death.

friend, Professor Delpech, of Montpellier, the celebrated author of the *Chirurgie Clinique*, at Fisherrow, recommended the operation of injecting warm water into the

In one case he injected a pound of water with temporary good effects. The blood in the cold is inspissated, and like treacle, which undoubtedly lies upon the immense quantity of the serum of the thrown off by the mucous membranes and skin during early periods of this stage. It is my opinion, that the use injection of water as warm as the natural temperature of the blood, will be very efficacious in assisting the patient from the collapse stage, and must also act in the manner as the injection of hot fluids by the intestine; addition to this, the hot water thrown into the veins dilute the blood. Were it afterwards judged necessary to add, this addition of water, by rendering the blood fluid, will facilitate its abstraction. We must, however, be cautious not to throw too much water into the venous system, whilst we are careful to prevent the entry of the smallest bubble of air, which would speedily be fatal. The instrument of Professor Delpech affords protection against this accident.

ould here call attention to a circumstance of vital importance, which has occasionally occurred to me. When I visited a patient, or returned to him after a short absence, the nurses often stated that the person was in a deep sleep; but upon softly speaking to him, I always

found this to be a mistake: for there is never sleep in stage, but a quietness which will terminate in death; therefore, without any regard to such appearances, we continue to apply our active remedies.

The account which I have now given of the stage of Collapse, and of the simple and efficacious remedies employed in its treatment, must have impressed every intelligent mind with the conviction, that the rapid and determinate tendency to sinking, constituting this stage, is that which gives the fatal and urgent character to this appalling disease. It is this which occasions the horror, and the mortalities of the epidemic. The treatment employed was nothing more than a series of efforts to oppose and to overcome this tendency. And in proceeding, as we now do, to the Stage of Reaction, I have only to note the phenomena which this process usually evolves. The stage of Reaction is to be simply the *Stage of Restoration*; and, with due attention, disappointment in the issue should not be experienced.

As to the *continuance* of this stage, I would remark, that there is a correspondence between the stages of Reaction and Collapse. If the latter has been mild, we may expect that the former will be short; on the other hand, if the Collapse has been desperate and severe, the stage of Reaction will be proportionably protracted. In this latter case, the valescence will be tedious, and recovery require weeks before it is perfected.

Among the *first* symptoms of Reaction, we observe the *return of the animal heat*. Yet we ought by no means to be satisfied with this. The *restoration of the pulse* is what should be looked for; and, so long as this is delayed, the patient is in imminent peril, and, if we fail in restoring it, he will inevitably die.

Even when we have succeeded in restoring the pulse, we are not precipitately to conclude that our work is done. With the pulse there is returning animation. Yet so strong does the tendency to death continue, that if we were to suspend our exertions, not only would the improvement cease, but a relapse would supervene. We must main-

crease the heat. We must find the pulse long steady, distinct, and the patient far removed from the confines of the bed, ere our efforts can be relaxed, or our anxieties be-
told to subside.

lessness is one of the first signs of returning animation. It presents a great contrast to the listlessness and remarkable quietude of the previous stage. It commences previous to the return of the pulse. It proceeds to a great height, most distressing to the patient, who cannot continue more than a few minutes in one position, tossing about his legs and hands and moving about in bed, in all possible directions. During this period, too, *thirst* is apt to be intolerable, and are the demands that are made for draughts of cold

These, of course, must be resisted. When the reaction diminishes, it is an excellent sign that restoration is advanced.

tendency to purging and vomiting continues, though to a very moderate extent; and I have had occasion frequently to observe, that in no one instance have I found them obstinately troublesome. When reaction is considerably advanced, I have often remarked that the vomited greatly resembled the yellowish-green appearance of the juice of a spoiled lemon. It may, however, be remarked, that I have sometimes observed the patient seized with sickness and vomiting, even for three or four days after a full reaction. This, however, readily yielded to common remedies. It was before noticed, that, as the reaction advanced, the discharge was converted from a watery to an albuminous substance. The reverse of this is observed during the recovery. The albuminous discharges in turn now give place to the rice-water dejections, or a milky-watery looking fluid, mixed as it were, with oatmeal. As the reaction advances, they begin to manifest an appearance which we are more familiar; and when they acquire a rancid fetor, the inference is most favourable.

Tongue continues cold for a considerable time after the first appearances of reaction have begun to manifest themselves. By and by, however, it becomes warm, and the

parts on its surface assume a light brown colour. This appearance is quite peculiar; nor have I been able, on examining it, to discover a resemblance to any known object. It is constantly found in this stage.

The same kind of turn in the symptoms is manifested connection with the peculiar pain at the pit of the stoma. This is a frequent symptom in the earlier periods of Collapse, at its lowest ebb, it is wanting, and again it returns when the patient is considerably revived. I can form no opinion as to the nature of this peculiar affection. I have known it increased by a mustard vomit, and frequently relieved by the application of very hot linen to the part. Venesection often afforded a most marked and instantaneous relief.

As the stage of Reaction advances, the *Pulse* first becomes distinct, though feeble; then moderately full, and will be felt beating at the rate of 130 or 140 in the minute.

The *Respiration*, as will easily be conceived, with the state of the pulse, is somewhat hurried.

The *Skin*, over the whole surface of the body, gradually assumes its natural hue, and the cold clammy sweat gives place to the healthy perspiration. The countenance also improves, the sinking of the features disappears, and the natural expression returns. In a day or two, there is usually a marked tendency to flushing, and the eyes often become suffused, or bloodshot, of a bright arterial hue.

In the latter period, the *Voice* returns, and the *Urine* is afresh secreted. When this takes place, convalescence is established, and a cure may be expected.

In children, I have always remarked, that when this stage has existed for two or three days, the *tunica adnata* secretes a tenacious fluid, causing adhesion of the eyelids.

Having thus described the symptoms of the stage of reaction, we are now in a condition to examine an opinion which has lately been broached, and strongly maintained, that in this country we have not only Cholera, but Typhus Fever also to contend with; and that, after escaping from the danger of the former disease, the patient has to encounter all the hazard of the latter. From the great *drowsiness* which usually occurs at this period,—undoubtedly, a most marked symptom, but one, the consideration of which I have purposely delayed to this time—I was at first rather inclined to acquiesce in this opinion. A very short experience, however, served to convince me that it was erroneous. A moment's reflection will suggest, that the complete exhaustion from suffering so acute, and the extraordinary prostration of strength, must require much time for the recruiting of the

ed powers ; and, I believe, that what has been called as the stupor of Typhus, is nothing more than the want of the soundest repose. I am now of opinion, mistook sleep for stupor dependent upon an affection of the brain, and my treatment was in unison with my pre-arranged views. Latterly, I was not so officious ; and, having much sleep both necessary and salutary, I restricted my treatment to small quantities of wine and arrowroot, and had any occasion to regret it : my views were only confirmed by my subsequent experience. For a day or two the patient is very drowsy, but it is amazing how speedily the tongue cleans. He continues in a very enfeebled and languid state for days or weeks, yet he is recovering as far as the nature of things can allow us to expect.

In these remarks, I do not at all mean to deny, that some degree of local inflammation may occur. The congestion of the skin before noticed, in the *tunica adnata*, shews that there is a tendency of this nature, and would put me on my guard against it. At the same time, no decided case of this affection has presented itself to my notice. Congestion was probably the cause of death in the only case known to me, which terminated fatally after days of full reaction ; but as to this point I cannot speak positively, as I gave no attention to this case.

In the complete stage of reaction, and after sound and refreshing sleep, I would recommend the lightest food, and in small quantities. In most cases that I have seen, I do not hesitate to give small quantities of wine. This diet and management will often be necessary for the patient after severe collapse.

The little complaints, and irregular secretions, must be attended to, as in the continued fever of this country.

It is indeed gratifying to see how steadily the recovered patients, at Sandgate Hospital, Newcastle, were, at the period of their departure, advancing to convalescence.

I may mention, that in this hospital I met with two female patients, of middle age, who, on the sixth or seventh day of their recovery from the cold stage, had a great part of the face and arms covered with an eruption, resembling a smallpox. It was slightly elevated ; and when at its height, had a bright red colour, which gradually disappeared in the second and third day of its appearance. It

greatly resembled the eruption which I often saw in the early stage of continued fever during last November in Edinburgh.

Every day I am more and more assailed upon by the views of non-contagion; but still, from the history of the cases I have read, and the ideas I have got of contagion from the writings of the contagionists, — I am far from confirming in my original views, that cholera is a disease communicable from one person to another, and that the recovery of the sick greatly depends upon the active exertion of the means previously recommended. It is said to me, How can you retain your opinion, when the reverse is so distinctly observable to other people? How can you doubt its contagious nature, when you see a boy seized and die of the disease, at a distance from his mother, who visits and attends him; she returns home soon also is affected with the disease, and dies? What a case vividly before me, I still conceive, that this circumstance is not a proof of contagion, but may be satisfactorily accounted for, by the mother being predisposed to the disease, in not enjoying good health, and then living for several days in a district where the disease is epidemic. Consider the following as a proof of contagion: — Of the attendants upon this boy's mother, who had themselves been within the atmosphere where the disease prevailed, had been seized with it, while none of the persons in the neighbourhood, who had no such communication with the patient, had been attacked.

I believe that the disease will eventually occur in Edinburgh, from the circumstance, that several individuals who had passed a short time in infected places, have afterwards been attacked by the disease in this town, and have died of it. Had not the disease, in this manner, occurred here, we might have had hopes that we should never have been attacked by it, as has happened, I am credibly informed, in the parts of Germany.

THE END.

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